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## DIET OF THE SHORT-EARED OWL IN NORTHWESTERN ARGENTINA

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Despite its widespread distribution of the Short-eared Owl (*Asio flammeus*) in South America, there is very little known about its feeding habits (Martínez et al. 1998). In Argentina, there is very little dietary information (see Dalby 1975, Massoia 1985, Diéguez 1996). Here, we report on the results of an analysis of Short-eared Owl pellets from northwestern Argentina and compare our results to those from other areas of South America.

We collected the Short-eared owl pellets in April 1993 at Cerrito Leones, near Pan de Azúcar mine, in the Man and Biosphere Reserve in Laguna de Pozuelos (22°15'–22°27'S, 65°56'–66°03'W; 3600–4800 m elevation) in the Province of Jujuy, Argentina. The reserve is an endorheic basin with a central lake surrounded by two ridges. The landscape includes a complex mosaic of mountain and highland systems with grasslands and shrublands belonging to the Puna Phytogeographic Province (Cabrera 1971) and slopes of bare rocks. The climate is cold and dry with a mean annual precipitation of 350 mm.

The 72 fresh pellets that we collected averaged  $44.4 \pm 7.8$  mm ( $\pm$  SD) in length (range = 29–62 mm) and  $26.1 \pm 3.4$  mm in width (range = 16–35 mm). The mean number of prey in each pellet was  $3.11 \pm 1.12$  individuals (range = 1–6) and it was not correlated with pellet length ( $r = 0.03$ ,  $P > 0.50$ ). The diet consisted mainly of native sigmodontine rodents (97.7%) with very low frequencies of marsupials, birds, and insects (Table 1). Two small rodents (*Calomys lepidus* and *Eligmodontia puerulus*) accounted for >90% of the prey. Levins' index of food-niche breadth (NB, after Marti 1988) was 2.30 for all prey categories and 2.20 for mammals. The geometric mean prey weight was 20.1 g.

A one year trapping study of the rodents in Laguna de Pozuelos found that the community was dominated by *Phyllotis darwini*, *C. lepidus*, and *Akodon albiventer* (Bonaventura et al. 1999; Table 1). *P. darwini* inhabits rocky slopes with shrubs of *Fabiana densa* and *Baccharis bolivien-sis*, while *C. lepidus* is restricted to shrub areas of *Parastrephia lepidophylla* on less rocky slopes. *A. albiventer* is found ubiquitously throughout the study area. According to

Marks et al. (1999), the daily activity pattern of the Short-eared Owl is likely dictated by the activity of its main prey. In Laguna de Pozuelos, high predation on crepuscular and nocturnal rodents such as *C. lepidus* and *E. puerulus* and the underrepresentation of diurnal rodents such as *A. albiventer*, suggested that the Short-eared Owls we studied had mainly a crepuscular to nocturnal hunting period. Low frequencies of *Phyllotis* in our pellet sample were probably due to its large size and not its availability since it does occur commonly in the diet of sympatric Great Horned Owls (*Bubo virginianus*) (Massoia 1994).

Our results agreed with those of Massoia (1985) who studied the diet of Short-eared Owls in temperate and humid Pampean grasslands. There, small native sigmodontine rodents also dominated the diet of Short-eared Owls and birds and marsupials were negligible. Nevertheless, his measure of NB was much higher (5.86 for all categories, 5.60 for mammals) and his geometric mean weight was even higher still (24.0 g). The harsh environmental conditions of Laguna de Pozuelos may have caused the apparent lower species richness of the Short-eared Owl diet there. Analyses of Short-eared Owl diets in continental Chile were also similar to our results. Rau et al. (1992) and Martínez et al. (1998) found that mice (*Abrothrix olivaceus*) were the most important prey of Short-eared Owls in northern Chile.

**RESUMEN.**—Se documentan los primeros datos sobre la dieta de *Asio flammeus* en el noroeste de Argentina, sobre la base de 72 egagrópilas recolectadas en la Reserva del Hombre y la Biosfera Laguna de Pozuelos (22°15'–22°27'S, 65°56'–66°03'W, 3600–4800 m, Jujuy, Argentina). Más del 90% de las presas consumidas fueron roedores sigmodontinos nativos de pequeño tamaño (*Calomys* y *Eligmodontia*). Los resultados obtenidos concuerdan con los registros previos para Argentina y Chile que indican una depredación centrada en micromamíferos de <30 g.

[Traducción de Autores]

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Table 1. Diet of the Short-eared Owl in Man and the Biosphere Reserve in Laguna de Pozuelos, Province of Jujuy, Argentina.

PREY	NUMBER	PERCENT BY NUMBER	ADULT BODY MASS <sup>a</sup>	PERCENT BY BIOMASS	PERCENT IN THE FIELD <sup>b</sup>
<b>Rodents</b>					
<i>Calomys lepidus</i>	122	54.7	15.1	43.9	22.5
<i>Eligmodontia puerulus</i>	81	36.3	21.4	41.3	—
<i>Auliscomys sublimis</i>	10	4.5	38.5	9.2	—
<i>Phyllotis</i> spp.	2	0.9	57.0	2.7	26.8
<i>Cavia</i> spp.	0	0.0	nd	0.0	1.4
<i>Akodon albiventer</i>	3	1.3	25.3	1.8	47.9
<b>Marsupials</b>					
<i>Thylamys</i> spp.	2	0.9	23.0	1.1	1.4
Birds	2	0.9	—	—	—
Coleopterans	1	0.5	—	—	—
<b>Total</b>	<b>223</b>				

<sup>a</sup> Mean adult masses in g were obtained from Redford and Eisenberg (1992).

<sup>b</sup> Data from Bonaventura et al. (1999).

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